

includes diagnosis and subsequent treatment. Whilst there are differences in the results between countries due to coding practices and population, the results are consistent over time and suggest a role for diagnostic interventions which can speed up diagnosis, thus ensuring more appropriate patient management at an earlier stage.

PMD39

THE ECONOMIC BURDEN OF ATRIAL FIBRILLATION AMONG ELDERLY POPULATIONS IN SELECTED DEVELOPED COUNTRIES

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OBJECTIVES: Atrial fibrillation (AF) is an arrhythmia that progressively worsens and is characterized by uncoordinated atrial activation involving a rapid and irregular heart rate (Fuster et al., 2006). AF patients are likely to have concomitant congestive heart failure (CHF) and stroke (Lee et al., 2008). The prevalence of AF in adults ≥ 65 years is 5–6%, increasing with age (Go et al., 2001). The purpose of this study was to estimate the economic burden of AF in selected developed countries based on prevalence and direct health care costs. **METHODS:** The economic burden of AF in Belgium, Japan, The Netherlands, and Spain was modeled based on prevalence rates identified via a literature search. Annual probabilities of receiving health care treatment and associated costs for AF, stroke and CHF, and related disability costs were included in the model. If cost data were unavailable, the costs were imputed based on the ratio of annual per capita health expenditures between the US and the country of interest. Cost estimates were calculated in 2011 euros. **RESULTS:** The prevalence of AF in adults aged ≥ 65 in the countries studied was: 59,600 in Belgium; 83,400 in the Netherlands; 182,000 in Spain; and 593,400 in Japan. The estimated annual economic burden of AF was: EUR 181.2 in Belgium; 256.6 in the Netherlands; 333.5 in Spain; and 1,722.5 in Japan (in millions). **CONCLUSIONS:** The economic burden of AF in developed countries is substantial, and is expected to grow as the population ages. Early detection and appropriate management of AF may help reduce this economic burden.

PMD40

BURDEN OF SSI IN GASTROINTESTINAL, CARDIAC AND ORTHOPAEDIC SURGERIES IN KOREA

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OBJECTIVES: To evaluate the burden of SSI (surgery site infection) in common surgeries in Korea. The considered surgeries: gastrointestinal surgery, Coronary Artery Bypass Grafting (CABG) and orthopaedic surgery represent the procedures with high, medium and low SSI risk. **METHODS:** The analysis was conducted from the hospital perspective. Costs were evaluated on the basis of Health Insurance Review Agency (HIRA) data. Risk of SSI and the influence of SSI on hospital length of stay (LOS) were calculated according to studies from a review Lee 2011. The influence of prolonged hospitalization on expenses was obtained with an assumption that the costs are evenly distributed during the stay. **RESULTS:** The risk of SSI depends on surgery type. Among the procedures considered, the highest SSI rate – 5% was related to gastric surgery and the lowest SSI rate – 1% to knee replacement. LOS in case of SSI is prolonged for about 60%. According to current data on hospitalization cost from HIRA, the influence of SSI on providers' budget could be substantial. The estimated increase in hospitalization cost induced by SSI is about 3.9 million won (2.700 €) for gastrointestinal surgery, 4.3 million won (3.000 €) for orthopaedic surgery and even 10.0 million won (6.900 €) for CABG. Halving the SSI rate would reduce the mean expenses for about 1%. **CONCLUSIONS:** The burden of SSI in Korea is high as SSI implies the significant prolongation of LOS. The detailed analysis should then be carried out in order to define the possible ways of minimizing the infection risk. The possible range of relatively non expensive risk-reducing interventions which may imply the substantial reduction of SSI rate include the use of antimicrobial sutures, antibiotics prophylactics, a safety checklist and other. The increased cost of SSI prevention would be probably broadly offset by the decreased costs of hospital stay.

PMD41

ECONOMIC EVALUATION OF CONTINUOUS SUBCUTANEOUS INSULIN INFUSION FOR CHILDREN WITH DIABETES – A PILOT STUDY

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OBJECTIVES: To assess the cost of using continuous subcutaneous insulin infusion (CSII) to treat children with diabetes and to compare it with the changes in HbA (1c) and BMI. The study was performed from the point of view of the health insurance fund and patients. **METHODS:** A combined retrospective and prospective analysis of the patients' records after the introduction of CSII was performed. Cost of CSII, blood glucose monitoring system and strips was calculated. The primary outcome observed was the variation in HbA(1c) and the secondary was the BMI change. **RESULTS:** Subcutaneous insulin infusion (CSII) systems are of a limited usage because they are not reimbursed by the health insurance fund in the country. The university pediatric clinic is introducing them on the request of the parents and only 30 children apply such. 11 children with diabetes type 1 during the period 1999–2011 were observed (mean age 10 years, mean duration of the disease is 7 years, average usage of CSII - 3 years). The CSII price is 3896 Euro and compared to the duration of usage it costs 1292 euro per patient per year. The blood glucose monitoring system costs 20 Euro and for the duration of the disease - 4.96 Euro per patient per year. The test stripes costs 533 Euro/ year (1100 stripes per year) and their average cost according to the duration of the disease is 3779.45 Euro since

diagnosis. Thus the total yearly cost weighed with the duration of the disease is 1850 Euro (30% reimbursed). The average improvement of HbA (1c) after the CSII introduction is 1.72 and the average BMI was 37.03. **CONCLUSIONS:** Improvements in glycemic control associated with CSII led to reduced HbA(1c) that can guarantee good diabetes management, but its control over BMI in growing children is still unclear.

PMD42

THE INCIDENCE OF THYROID CANCER AND MEDICAL COST AMONG PATIENTS WITH THYROID NODULES IN KOREA : USING HEALTH CLAIM DATABASE

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OBJECTIVES: The frequency of newly diagnosed thyroid nodule is increasing, probably because of the widespread use of ultrasonography in Korea. However, there are few researches about the incidence of thyroid cancer in patient with thyroid nodules using national representative data. This study is performed to investigate the incidence of thyroid cancer and medical costs among patients who were newly diagnosed as thyroid nodule in South Korea. **METHODS:** We analyzed national health claim database including all hospital records covering almost every population by national health insurance system. We selected patients aged 20–120 years old with thyroid nodules using ICD-10 codes of D34*, E041, E042 in 2008. We excluded all patients who were previously reported to have a thyroid nodule or any type of cancer including thyroid cancer between 2006 and 2007. We conducted a follow-up survey of the selected subjects on the national health claim database at least for 2 years after diagnosis. **RESULTS:** We identified 283,844 eligible patients with thyroid nodules. Their mean age 48 \pm 13.2, and 234,388 (82.58%) subjects were female. During median follow-up of 2.4 years, 21,538 (7.6%) Lower age, history of thyroid disease or diabetes was associated with the risk of thyroid cancer. Mean direct medical cost per patient paid by national insurer or shared by patient related with newly diagnosis of thyroid nodules were about 475 Euros during follow up. The medical cost of thyroid nodules subjects was 271 Euros, and it was especially higher in patients with thyroidectomy (1378 Euros). **CONCLUSIONS:** In Korea, the incidence of thyroid cancer was relatively higher, while the medical cost was much lower than other countries, suggesting that careful follow-up for thyroid nodules required in Korea. Further study is needed to identify the risk factors of thyroid cancer in patients with thyroid nodules.

PMD43

COMPARISON OF ACTUAL COSTS VERSUS DRG REVENUE OF CERVICAL ARTHROPLASTY IN PATIENTS WITH DEGENERATIVE DISC DISEASE IN GERMANY

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OBJECTIVES: Cervical degenerative disc disorders are increasingly common in adults. Patients refractory to conservative therapy require surgery for relief of pain. This micro-costing study sought to compare actual costs of index hospitalization versus DRG revenue for cervical disc arthroplasty (CDA) in order to explore the financial profit or loss of this emerging intervention for German hospitals. **METHODS:** As published data is scarce, detailed in-hospital resource utilization for 1-level or 2-level CDA was mainly based on information supplied by three experienced neurosurgeons from private and public German hospitals. Where available, these estimates were compared and calibrated with existing data. Unit costs collected from hospital accounting departments and information from German reference cost databases and the published literature were subsequently assigned to the resource use items for the calculation of actual hospital costs associated with CDA. **RESULTS:** Average total per-patient hospital costs were estimated at €5,930 for 1-level and €8,768 for 2-level arthroplasty. Most important cost drivers were the costs of materials & disposables required for the intervention (relative contribution to total hospital costs for 1-level CDA: 44%, for 2-level CDA: 58%), followed by hospital ward costs (27%, 18%), use of operating and recovery room (15%, 13%), OR-team (8%, 7%), and diagnostic examinations (6%, 4%). With current G-DRG payments for mono-segmental CDA (€6,620) and bi-segmental CDA (€9,815), German hospitals can achieve average earnings of €690 (1-level CDA) and of €1,047 (2-level CDA) when performing this emerging disc replacement technique. **CONCLUSIONS:** Our costing study indicates that 1- or 2-level CDA represents a feasible and financially sustainable surgical therapy for German hospitals. First evidence from the literature also tends to show that CDA is associated with additional long-term benefits in terms of reduced rates of disc reoperations compared to conventional anterior cervical discectomy and fusion.

PMD44

EVALUATING STRATEGIES FOR USING DNA TESTING TO IDENTIFY MUCINOUS PANCREATIC CYSTS

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OBJECTIVES: To estimate the costs and benefits of diagnosis strategies using DNA testing for mucinous pancreatic cysts (MPCs). **METHODS:** A decision tree was constructed that compared three diagnostic strategies for pancreatic cysts: 1) endoscopic ultrasound-guided fine needle aspiration (EUS-FNA) with cyst fluid testing for carcinoembryonic antigen (CEA); 2) strategy 1+DNA testing if insufficient fluid for a CEA; 3) strategy 2+DNA testing if the CEA is indeterminate. Probabilities of insufficient fluid, positive, negative, and indeterminate CEA results, and positive DNA results given insufficient fluid or indeterminate results were calculated from